AIR FORCE MATERIEL COMMAND

LEADING EDGE

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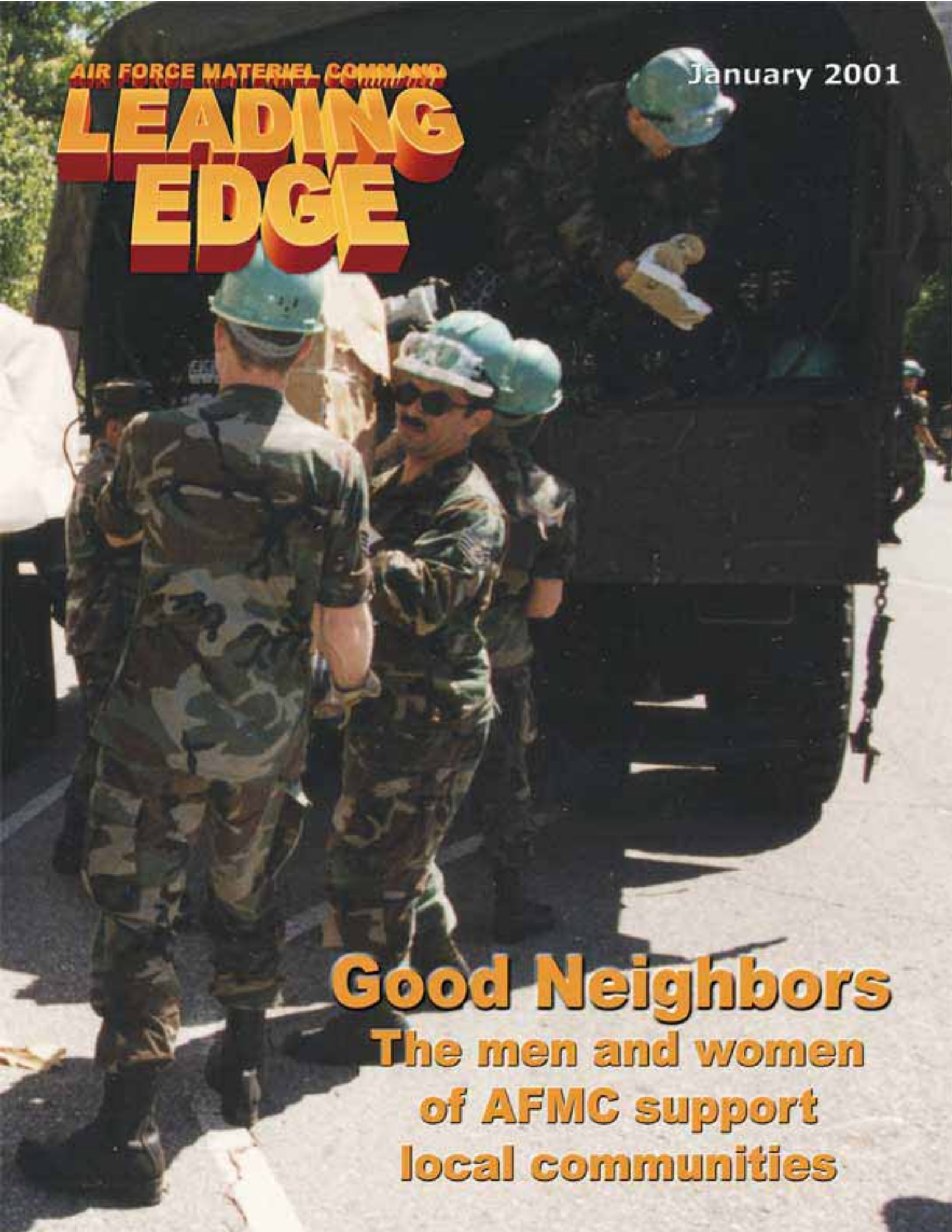

Good Neighbors

The men and women of AFMC support local communities

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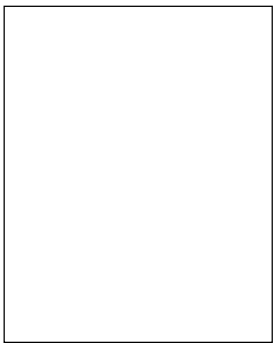

Tinker AFB, Okla., provided personnel, equipment and supplies to aid rescue and recovery efforts following the 1995 bombing of the Alfred P. Murrah federal building in Oklahoma City. (Photo by Mr. Dave Faytinger, OC-ALC)

They respond to community calls for help in times of disaster, bring a little happiness to children with adverse medical conditions, help build a new future for those less fortunate and mentor future employees. Turn the page to read just a few of the ways men and women of Air Force Materiel Command are good neighbors.

Mission Progress

Features

Departments

Photo by Ms. Bobbi Garcia, AFFTC

X-32A begins simulated carrier-landing tests

EDWARDS AIR FORCE BASE, Calif. — The Boeing Joint Strike Fighter X-32A concept demonstrator aircraft succesfully began field carrier-landing practice tests Nov. 15 to demonstrate flying and handling qualities during low-speed aircraft carrier approach.

Navy Cmdr. Phillip "Rowdy" Yates, the U.S. government's lead test pilot for the Boeing JSF program, and Mr. Fred Knox, Boeing lead test pilot, are demonstrating simulated carrier landings using a Frensel lens on the ground to provide pilot cues during their approaches to a simulated carrier deck outlined on a runway here.

"The X-32A demonstrated excellent low-speed flying qualities in the carrier mode configuration," Cmdr. Yates said. "Flight path control was precise all the way to touch down — this aircraft continues to fly as simulations predicted it would."

Including this 30-minute flight, Boeing now has completed 18 flights and 24 percent of the program's overall flight-test objectives, as well as 54 percent of its carrier variant approach objectives.

During flight tests at Edwards the two JSF aircraft must successfully demonstrate three objectives originally outlined at the beginning of the phase in 1996:

— Commonality and modularity among JSF variants;

— Low-speed carrier approach flying and handling qualities;

— Short takeoff, transition, hover and vertical landing.

— Reported by AFFTC Public Affairs

TEST AND EVALUATION

X-35A breaks sound barrier at Edwards

EDWARDS AIR FORCE BASE, Calif. — Just 25 hours and 25 flights into its airborne test program, the Lockheed Martin Joint Strike Fighter X-35A broke the sound barrier Nov. 21, continuing an aggressive program of flight-envelope expansion.

Mr. Tom Morgenfeld, test pilot, lifted off from here and took the X-35A to 25,000 feet altitude, reaching Mach 1.05.

Earlier in the day, on the X-35A's 24th flight, Mr. Morgenfeld made six field carrier landing practice demonstrations, previewing the aircraft's low-speed carrier approach handling qualities in advance of upcoming tests with the second demonstrator, the X-35C. He said controllability in the carrier landing profiles was excellent as he followed glide slope cues from a Fresnel lens on the ground.

With its flight testing now complete, the X-35A returned to Lockheed Martin's nearby Palmdale, Calif., facility to be fitted with a shaft-driven lift-fan propulsion system. It will be renamed the X-35B and will begin ground testing in preparation for its short takeoff and vertical landing demonstrations.

The conventional-takeoff-and-landing X-35A, designed to meet Air Force specifications, is externally identical to the STOVL X-35B, the U.S. Marine Corps, the British Royal Air Force and Royal Navy JSF demonstrator. Consequently, much of the X-35A's flight-test data will satisfy government requirements for the X-35B.

— Reported by AFFTC Public Affairs

RESEARCH AND DEVELOPMENT

Air Force powers NASA's land-imaging satellite

KIRTLAND AIR FORCE BASE, N.M. — Air Force Research Laboratory's lightweight flexible solar array, or LFSA, the first in a series of NASA Earth observing satellites, launched Nov. 21 from Vandenberg Air Force Base, Calif.

The satellite is a small experimental version of an eventual 700-watt, power-generating array that will supply electricity for future spacecraft. Technically equivalent to its eventual full-size counterpart, it will blaze the way for thin film photovoltaics, recently developed "smart" mechanisms and multifunctional structure-based "flex" interconnect technologies. It offers higher total system specific power than any previous flight-qualified solar array, and uses "shaped memory hinges" to gently unfold itself from a stowed launch configuration and avoid the shock often associated with pyrotechnic release devices that can damage sensitive satellite payloads.

The satellite consists of very lightweight composite, window frame-like structures that contain a thin-film, light sensitive "copper-indium di-selenide" compound that turns solar energy into electricity.

"The essence of this experiment is to demonstrate that we can more than double the currently available power by using extremely lightweight materials that convert a greater percentage of the sun's energy into usable electricity," said Mr. Fosness.

"Further, we will measure the success of withstanding long-term exposure to radiation, atomic oxygen and the stresses of heat and cold as the spacecraft passes through the sunlit and darkened phases of its orbit," he said.

— AFRL Public Affairs report

Robins completes Sidewinder upgrade

ROBINS AIR FORCE BASE, Ga. — The Missiles Division of the Space and Special Systems Management Directorate at Warner Robins Air Logistics Center recently completed a major upgrade of the Air Force's air-to-air Sidewinder missile. The new version, called the AIM-9M-9, cannot be fooled by flares dropped by enemy aircraft.

The Sidewinder is a heat-seeking, short-range, air-to-air missile used by most U.S. fighter aircraft and the A-10 ground support aircraft. Its guidance system homes in on the engine exhaust of target aircraft, enabling the pilot to launch and leave while the missile guides itself to the target.

The missiles division manages air-to-air missiles and radar-detecting air-to-ground missiles. In addition to the Sidewinder, these include the AIM-7, AIM-120, the radar-detecting AEM-88 and the Stinger.

— Reported by WR-ALC Public Affairs

Disaster brings community, Air

On Sept. 17, 2000, a tornado, with destructive power rated at F-4, touched down in Xenia, Ohio, cutting a swath through the community and leaving devastation in its wake. It destroyed homes, businesses and power lines leaving the people in darkness and many homeless.

Volunteers from emergency service agencies such as hospitals, fire departments and security forces joined local emergency response personnel in setting up an initial triage location in Xenia's Wal-Mart shopping center parking lot, Sept. 20.

Among those volunteers were crisis response team members of the 74th Medical Center mental health flight, Wright-Patterson Air Force Base, Ohio. The team participated with the Dayton chapter of the America Red Cross.

"As volunteers with the Red Cross, the team willingly gives time and talent back to the community," said Lt. Col. Bill Wall, chief, behavioral health branch, office of the command surgeon at Wright-Patterson and also Red Cross volunteer. "They step up to assist when a disaster or potentially traumatic event befall the emergency service workers from the Southwestern region of Ohio.

"Our role for the Xenia tornado was to make contact with the neighborhood, monitor the stress on our Red Cross colleagues and provide a supportive framework for the emotional healing necessary to facilitate the rebuilding of homes and spirits," he said.

The volunteers spent the day counseling people who lost virtually all their property. But they also talked to people who might not have lost anything. According to Lt. Col. Wall, many people feel guilty because they didn't have any damage, or very little damage, while their next-door neighbor lost everything.

He said it is difficult to approach people who have just suffered a traumatic event and ask how they feel. But asking them where they were when the tornado came through, leads them to talk about what had happened.

"The stresses felt by the adults and children will likely continue as people struggle to put their lives together," said Lt. Col. Wall. "But, the things that seemed to make them feel better was the outpouring of help from the community. Community support helped them muster their own resilience and confidence that they weren't alone in trying to get through the tragedy."

Sometimes, instead of just talking to them, it was practical things that helped them feel better. It was handing out tarps or plastic sheeting, willingness to hold a ladder for someone to climb and taking the time to help search through the rubble looking for a special object like a photo album, jewelry box or other sentimental item that they were most appreciative of, he said.

One family said they owed their life to the Discovery channel. The homeowner and his two children were watching TV when the noise of the wind and what sounded like hail became louder.

He went to the front door and saw swirling dirt and debris in the air. Since they had watched Discovery channel specials on tornadoes recently, he recognized what was going on and shouted for the children to get to the bathtub. It saved their lives because the tornado destroyed the living room where they had sat watching TV just moments before.

The level of destruction was high that day and the Xenia tornado was considered a national disaster.

"Looking around, the area looked like piles of rubble," said Lt. Col. Wall. "But the closer you looked, you saw the human aspect, the children's toys, the bike, the rocker and the couch.

Just moments before the tornado struck this house, a father and his two children were watching TV in the living area, which is now destroyed and covered with debris. The TV they were watching is visible in this picture near the doorway. (Photo by Lt. Col. Bill Wall.)

Force together

A youth group was meeting at this church when the tornado struck and tore off the roof. No one was hurt and parents expressed relief in finding their children safe. (Photo by Lt. Col. Bill Wall.)

That's when you realized the impact on the people and the community."

In a church that fell in the path of a tornado, a youth group was meeting when the roof was torn off. Many parents had children at the church and they talked about their fears and concerns and then their appreciation upon finding them safe.

"One fellow told me of his concern for teenagers at the church, his daughter being one of them. His greatest fear was they were dead, balanced by his sense of faith that they would be protected. But he felt the terrible fear of not knowing," he said. "He said he was a happy man, renewed in his faith in God."

When a tragedy strikes a community like the tornado in Xenia, people need assistance on many levels. The obvious damage in a natural disaster is not the physical structures that provide shelter, food, water and safety.

What is often transparent, at first, is the emotional impact of a traumatic event such as a tornado, he said.

"People affected by such an event are initially on auto pilot, doing what has to be done to survive the physical impact of the disaster," said Lt. Col. Wall. "Sometimes this goes on for several hours or days, but eventually a person comes off the auto pilot. When they do, they need significant support to manage the full force of their emotional reaction to what they have experienced."

The disaster mental health teams focus in on helping the victims work through the emotional trauma of the experience.

"I encourage people to volunteer," he said. "In their daily duties they get exercised to death, but it is simulated. In events such as the Xenia tornado, they get to use what they know in a real-world situation and feel like what they are doing is actually making a difference and helping someone. It also helps us build relationships that enhance a spirit and sense of partnership between the Air Force and the community."

Members of the 74th Medical Center have also aided in a Houston flood, a Puerto Rico hurricane, N.C. floods and a Cincinnati tornado.

— Capt. CK Keegan, AFMC Public Affairs

Base responds to community's call for help

Thirteen base firefighters responded to nearby Xenia, Ohio Sept. 20 to help that community deal with a twister's aftermath that left one person dead and 100 more injured.

The 88th Civil Engineering Group Fire Department firefighters and paramedics responded to the ravaged scene at about 8 p.m. via a mutual aid request from sister city Fairborn through the Greater Dayton Area Fire Alliance. Fairborn was relaying a call from the Greene County sheriff's department calling for all available emergency response equipment.

Wright-Patterson crews converged on Xenia with two pumper trucks, one rescue vehicle and a district chief to act as a liaison with other firefighting units, according to Mr. Jim McKay, base fire chief. The Greater Dayton Area Fire Alliance includes units from Butler, Clark, Darke, Greene, Miami, Montgomery, Preble and Warren counties in Ohio.

The tornado leveled a supermarket and severely damaged a Wal-mart store, four churches and many homes, cars and trees in the Xenia area.

"We staged at the Wal-mart and searched the store to be sure no one was trapped inside," Mr. McKay said. "We also secured the building so it would be safe for people to go back in to do what they needed to do."

Wright-Patterson crews found no casualties inside the Wal-Mart, but they did find 30 store employees trapped while trying to secure the store's valuables.

"Thank goodness we didn't find casualties," said Mr. Chuck Farley, crew chief on Wright-Patterson Engine 11 responsible for the search. "The store managers were great. They told us if we needed flashlights to search with to just take them and whatever else we'd need off the shelf. You don't get cooperation like that very often."

In addition to the Wal-mart search, another base unit was called to search a 44-home area to help with injuries and make sure everyone who needed help got it.

Mr. McKay said his firefighters and paramedics also established the initial triage center at nearby Cox Elementary School where the community's injured were being taken. They also put out one car fire.

Wright-Patterson firefighters respond to an average of nine mutual aid requests per month, according to Mr. McKay. Some, he said, are minor and they get cancelled before his crew makes it out of the main gate, but it's the others they need to be ready for.

"We all work together as a community and being a good partner and neighbor is very essential," Mr. McKay said. "When our fellow departments need help they call and when we need it we call. With equipment getting older and money becoming scarce, that is happening more and more frequently. But if we can help our neighbors with the technology and capability we have, we should do it every time we get a call."

— Staff Sgt. Carl Norman, AFMC Public Affairs

Chaplain increases role in substance abuse prevention

On Oct. 13, Chaplain (Maj.) Thomas Doyle became the first chaplain and the first Air Force officer to complete the three-month Navy Drug and Alcohol Counselor School in San Diego.

"Offering counseling help in this area is something I've been doing for several years," said Chaplain Doyle, who is stationed at Tinker Air Force Base, Okla. "When it was suggested that I get formal training, I proceeded to make it happen. This school is one of the best in the United States for training in substance abuse and addictions therapy."

Even though this type of help isn't typical for a chaplain, he said it does offer real help to people whose lives have sunk as low as they can get. According to statistics from the Keystone Treatment Center, Canton, S.D., 25 percent of Americans die as a direct result of substance abuse, 53 percent are getting drunk at least once a month, 43 percent are smoking marijuana and 36 percent are smoking cigarettes.

"This is real," said Chaplain Doyle. "This counseling is helping people believe in themselves and in a higher power — God. During the course of the school, we were required to participate at different residential facilities for men and women who were destitute and had committed themselves to a six-month residential program. We had long days and long nights there, but it was a wonderful, very rewarding experience."

Chaplain Doyle said he saw "good people who had been debilitated by a disease that could be helped. We were taught basically how to counsel for any type of addiction problem such as alcoholism, codependency, gambling, smoking, substance abuse and even sexual addiction."

The school's basic philosophy was called a humanistic approach, which Chaplain Doyle said is a very positive, respectful approach. "You take the person and respect who they are, you value their being," he said. "You don't try to tell them or direct them, you allow them to try to find the direction themselves and you're supportive. At the same time, if it's an alcohol or substance abuse issue, it's a difficult program to follow."

Chaplain Doyle said the class dove deeply into the personality and physiological affects to the brain, emotions and internal organs caused by alcohol and substance abuse, and how it affects judgmental abilities and life in general — family and work. He brings that knowledge home to Tinker.

The chaplain has plans to use this knowledge, too. "I've already started conversations on putting together some programs on prevention and awareness for squadrons, organizations and so on," he said. "I definitely want to do something with the young people through the chapel. Being a chaplain in the area, I have a unique standing to do that. I think there's a need here at Tinker that's no greater or lesser than any other base or any other area. The need is not just those who suffer from alcohol or drug addiction themselves, but trying to create the awareness and the prevention.

"I've seen firsthand what alcohol and drug abuse can do to a life — I've seen ruined people," Chaplain Doyle continued. "If all of this can prevent one individual from going there, then it's worthwhile."

Helping addicted young people think of their future and find a sense of hope is something he takes very seriously. "These are concrete steps to get them away from depending on drugs or alcohol. This counseling is not easy, but I chose it because addiction is a very debilitating disease, widespread and it's here much more than people acknowledge."

But, as Chaplain Doyle said, it's something that's treatable. "I've seen people whose lives have been completely and totally turned around with the proper kind of help and direction. I've seen military members who were alcoholics who got therapy and assistance and became stellar performers — it's not hopeless."

Being in the field of substance abuse and addictions counseling is very exciting to Chaplain Doyle. "The people who are in it have to be very generous because it's such a difficult job," he said. "Your success rate is not over the 50th percentile, it's much lower, but you just plug away. People in this field are also very kind and compassionate and those are the kind of people I like to be with."

Chaplain Doyle was selected by his classmates and faculty as the most distinguished graduate. "This was the most intense educational experience of my life. This was the toughest school I've ever been through because there was so much demand on us — the sense of responsibility for someone's life."

As a chaplain, he said his job is basically to help people. "That's the most important thing I do — help people who need help, those who are maybe hopeless with their addiction. I get a personal satisfaction out of helping people and believe the old Jewish proverb, 'if you save just one life, you've saved the world.'"

— Ms. Gail Kulhavy, OC-ALC Public Affairs

Eglin's "Pilot for a day" program

Ian Skuropat was all smiles, especially after the 7-year-old bagged his sixth bad guy on the F-16 simulator.

"He is the first ace," said Mr. Steve Chisler of the children who have been through the "Pilot for a Day" program at Eglin Air Force Base, Fla.

And that's saying a lot considering 18 or 19 have been "pilots" since the program began at Eglin seven years ago.

"It felt sort of funny," Ian said about getting used to the F-16 controls in the simulator. He was well aware of how many kills he made.

"Six. Almost seven," he said.

The one that got away escaped in the clouds, he said.

The "pilot" program is for children with significant adverse medical conditions.

Children picked for the program spend nearly a day at the base. They receive a flight suit and patches, take a spin in a simulator, visit the tower, look over an F-15, lunch at the noncommissioned officers' club and visit the air museum. An F-15 is painted with the name of the child on the side.

Mr. Chisler said the program originated at Randolph Air Force Base, Texas, about 10 years ago. A half-dozen bases now have such programs, he said. The 40th Test Squadron handles Eglin's version.

Ian, who has undergone surgery and chemotherapy for bone cancer in his leg, is doing well and is cancer-free now, said his mother, Ms. Patsy Roark-Skuropat.

His most recent surgery was last month, when a support plate had to be replaced. The initial surgery involved removing a 3-inch section of bone in his left leg and replacing it with donor material.

He was in a cast for three months and had to return every two weeks. The cast was removed in January.

Ms. Roark-Skuropat said even when she was first told that her son had cancer, she never lost faith that he would be all right. She credits the spiritual support she received from the Miracle Faith Center.

Ian, a straight A second-grade student at Cook Elementary, did not seem slowed down one bit Monday by the crutches he uses. He and his 6-year-old sister, Aislinn, and his neighbor, 7-year-old Thomas, spent the "Pilot for a Day" together.

Mr. Chisler, a program engineer with the 40th who assists in the program, said that although they focus on the one child, companions participate as well. He recalled one time when a young teen was accompanied by 10 of his friends.

Ms. Kathleen Stanhope, coordinator of the program for Sacred Heart Hospital, said she's been involved in it for four years. She said Sacred Heart sends about nine children a year to the program.

"When they first contacted me about this, they just wanted kids who had chronic medical conditions," she said.

But it has since been expanded to include those with a "significant medical condition."

"It is the most fantastic program. The kids and families come back just beaming about it," Ms. Stanhope said.

Before the Skuropat family left Eglin on Monday afternoon, Ian was given a certificate giving him the handle "Ace" and praising him for outstanding hand-eye coordination that allowed him to shoot down six "bandits."

His mother said they all had a great time.

"I hope people will understand that it can be a good ending," she said.

— Reprinted with permission by Mr. David Tortorano, Pensacola News Journal staff writer

Top left: Capt. Chris Azzano, 40th Test Squadron at Eglin Air Force Base, Fla., outfits Ian Skuropat, 7, for a day of flight training. Ian, who is recovering from bone cancer, was treated to the special day by Eglin's 40th Test Squadron.
Left: Capt. Azzano, watches as Ian flies an F-16 flight simulator, with the help of his friend Thomas Bush, 7, right center, while sister Aislinn Roark, 6, top right, watches. (Photos by Mr. William Giberson, Pensacola News Journal)

Volunteers help build a new future

With the efficiency of a demolition crew, students and faculty from the U.S. Air Force School of Aerospace Medicine at Brooks Air Force Base, Texas, busily began building a new future for homeless families by cleaning up an old, former convent in San Antonio.

Thirty-five USAFSAM volunteers spent six hours toiling and sweating in the Texas heat. In the hot, dimly lit corridors of an abandoned dormitory, volunteers resembled leaf cutter ants as they hauled wood down three flights of stairs to a backyard area where others neatly piled the debris in stacks.

The wood had once been nuns' cubicle "apartments," now in pieces thanks to volunteers' mastery of quick disassembly. Meanwhile, other students swarmed the grounds while engaged in landscaping tasks that included weeding, mowing grass and hauling dirt.

"The San Antonio Metropolitan Ministry, or SAMM, wanted to make the former convent quickly habitable," said Staff Sgt. Wes Walker, USAFSAM project mastermind who is an instructor in the education division's contingency operations branch. "Our primary mission was to prepare the place for renovation." The group's follow-up project at the site involved the disassembly, transportation and re-installation of a huge post-beam construction playground donated by a northside San Antonio family.

The convent restoration project is part of an on-going series of community service activities that USAFSAM has been involved with since last year.

From left, Airman Basic Ginelle Cutright, Nancy Wall and Dawnielle Strol spruce up a former convent's garden. Members of the U.S. Air Force School of Aerospace Medicine and faculty volunteered to clean up the old convent that was converted into a homeless shelter. (Photo by Mr. Rudy Purificato, 311th HSW)

USAFSAM's community involvement in 1999 earned the school the prestigious Public Service Excellence Award from the non-profit Public Employee Roundtable.

While he credits volunteers for their collective work that has had a significant impact on the community, Sgt. Walker is the true inspiration for contributions to people in need.

"There was a spirit of giving and caring in the community where I grew up," said the 35-year-old Gloucester, Va. native. Sgt. Walker's commitment to helping others is rooted to the area where he was raised, steeped in Colonial American traditions.

"People in Colonial America who had fallen on hard times were given jobs and food to help them out," he said. The government didn't give them assistance, neighbors did."

Neighbors helping neighbors has been generational in the rural area where Sgt. Walker learned from his folks the meaning of generosity. "My family always helped families in need. We donated groceries to them during the winter. Dad hired local kids to rake leaves to help their families out financially. It was ingrained in us that you take care of the people where you live if you want your community to prosper. That has been my foundation."

The 16-year Air Force public health craftsman has been active helping others wherever he has been assigned. "When I arrived at Brooks in 1998, I found a lot of type 'A' personalities at the school. They just needed a cause to become involved. It was easy to persuade them," he said.

By the spring of 1999, students enrolled in the public health apprentice course had agreed to help at a local homeless shelter thanks to their instructor Staff Sgt. Rob Cudgel. "He arranged to take his entire class of 30 students to work at the shelter. They made sandwiches and distributed donated clothes," Sgt. Walker said. The group also did some carpentry work there on temporary living quarters.

"In July 1999, I was the instructor for the next apprentice class. We worked in the kitchen. As food safety experts we improved food handling practices there," Sgt. Walker said. Volunteers then expanded their work to other projects that helped improve shelter conditions, including painting walls and parking lot grounds care.

Sgt. Walker said students learned quite a lot about life and themselves. "They matured. They began to see things differently in terms of being exposed to poverty. Some students who had a 'don't care attitude' changed," he said. The dynamics of helping people in need turned apprentice classes into teams who worked well together.

San Antonio Metropolitan Ministries were elated by the spirit in which volunteers tackled their tasks. "Previous volunteers at the shelter were either court-ordered to do community service or they had their own agenda. With us, they had a large group of volunteers who work together as a team with a common goal," Sgt. Walker said.

USAFSAM's commitment to community service has mushroomed over the past year. "We're making a long-term commitment to help SAMM," he says, noting that even the school's student manual includes community service as a way for students to phase-up as they progress through their course.

"It leaves a positive impression with the students, giving them a sense of contributing to society," said Sgt. Walker. "Like the 1964 movie namesake, the school has indeed become a "Good Neighbor SAM."

— Mr. Rudy Purificato, 311th HSW

Photos by Mr. Rudy Purificato, 311th HSW

Old flag flies anew at school

The new Old Glory that gently flapped in overcast skies above Roosevelt Elementary School in San Antonio shone in the special light of appreciation from students and faculty when the Honor Guard from Brooks Air Force Base, Texas, reverently hoisted it to its place of honor.

Were it not for the generosity of Tech. Sgt. Richard Madrid, Jr., this financially-challenged Edgewood School District campus would have celebrated yet another Armed Forces week with their weather-scarred flag.

"About a week ago my neighbor, Joe Lopez, whose wife is a school principal, asked me if I knew how the school could replace their tattered flag," said Sgt. Madrid, medical administration Non Commissioned Officer in Charge for the U.S. Air Force School of Aerospace Medicine's Davis Hyper-baric Laboratory.

Having nurtured a lifelong interest in helping others through charitable work, Sgt. Madrid decided to donate a new flag to the school. "The school district didn't have end-of-year funds to buy a new flag," he said.

The student choir at Roosevelt Elementary School in San Antonio preformed during a ceremony when the Honor Guard from Brooks Air Force Base, Texas, replaced the school's weather-scarred flag.

Sgt. Madrid also saw an opportunity to promote patriotism and the Air Force in a flag raising ceremony that he organized through the help of Staff Sgt. Angela Anderson, Honor Guard NCOIC.

Honor Guard members Staff Sgt. Jorge Rodriguez, Staff Sgt. Andrew Hughes and Airman William Jones participated in the reveille-type ceremony held a week before the national Armed Forces Day celebration in May.

"We're very excited to get the new flag," said Ms. Sylvia Lopez, principal, admitting that no one knows how long the old flag had been flying there. Established in December 1957, Roosevelt Elementary is the academic home to 330 students in grades pre-kindergarten to fifth grade.

The entire campus participated in the ceremony held at the school's front yard flagpole. Ms. Lopez used the occasion to teach students what the American flag represents, turning the school assembly into a festive "July 4th-like" event. Several students read excerpts on our flag's history. A choir sang all four stanzas of the National Anthem. A pledge of allegiance to the flag preceded Sgt. Madrid's remarks.

"What a privilege it is to donate something I feel very strongly about and have sworn to protect on a daily basis, the United States flag," said the 11-year Air Force veteran. The Ventura, Calif., native also presented an encased American flag dedicated to the school.

"I want this memento to serve as a reminder of the U.S. Air Force and Brooks Air Force Base. The military will continue to be positive role models and staunch supporters of local schools, educators, children and the community," he said.

— Mr. Rudy Purificato, 311th HSW

Like a good neighbor...

Tinker is there

Tinker Air Force Base, Okla., takes their place in the community as a friend and neighbor seriously.

They had the opportunity to prove it on April 19, 1995 when a bomb exploded in the Alfred P. Murrah federal building in the center of downtown Oklahoma City, killing 168 adults and children. Tinker sprang into action offering assistance.

By 3:30 p.m. the Tinker installation commander and hospital officials greeted two T-43 aircraft carrying 40 doctors, nurses and technicians comprising surgical and critical care teams from Lackland AFB, Texas.

Tinker's 3rd Combat Communications Group promptly dispatched 50 people. Between the "3rd Herd" and civil engineers a myriad pieces of equipment big and small were allocated for assistance — heavy vehicles, mobile power generators, light kits, water buffaloes, dump trucks, a fork lift, passenger buses, air compressors with jackhammers, a Bobcat excavator, hand tools, cots, sleeping bags and tents.

Tinker airmen deliver cots to the hands of various squadron members and firefighters for makeshift living areas in downtown Oklahoma City after the 1995 bombing of the Alfred P. Murrah federal building. Members of the 772nd Civil Engineering Group and the 3rd Combat Communications Group combined efforts to provide people and equipment. (Photos by Ms. Margo Wright, OC-ALC Public Affairs)

No organization with equipment or personnel able to assist was left out. Tinker's hospital, security forces and fire department jumped in with full life support-equipped ambulances, two surgeons, 60 hospital personnel, a canine unit and more than 50 firefighters.

Airman 1st Class Donyiell Winrow, 72nd Mission Support Squadron, left, and Airman Robin Southcott, Navy VQ-3 Training Department, share homemade Valentine's Day cards with Friday Todd in the Veterans Affairs Medical Center. Annually, Tinker military members join others from the community, delivering Valentines made by Tinker Elementary School children and other area school children to hospitalized veterans.

Services division sent 254 blankets, provided more than 200 meals and made arrangements for 250 rooms in the local area for investigation officials. In addition, Air Force C-141 Starlifters and C-5 Galaxy aircraft continued to arrive at Tinker carrying Federal Emergency Management Association and other federal law enforcement teams.

Helping again

Again, unfortunately, Tinker proved their willingness to jump in in times of need when disaster struck a second time. On May 3, 1999, the largest tornado in recent history devastated a part of the base and surrounding community. In spite of their own facility casualties, Team Tinker reached out to lend a helping hand in search of victims and precious family belongings when Tinker fire crews and security forces assisted the Del City Fire Department and other civil authorities in search and rescue efforts.

At the start of 2000, many members

of the work force, their spouses and extended family members were still trying to recover from the physical and mental effects. Tinker's Family Services created and held town meetings to not only help these people deal with their fears and grief, but also to share information about contractor problems and preparation for any possible future tornadoes.

Reaching out to help

Working with the community is nothing new for Tinker and there is no hesitation when disaster strikes, but the team considers themselves a friend even when terrorists take a break and the weather's fine.

For instance, the 10th FTS works with the Oklahoma City Children's Hospital to bring the essence of flying to children.

One such program is the annual Pilot for a Day where children, often fighting cancer, are treated to flight suits, an abbreviated survival training and a seat in the cockpit of a grounded plane.

Tinker tutors

Another example is when 10th Flight Test Squadron gave 16 elementary students from Oklahoma City's Thelma Reece Parks Elementary a close-up look at Air Force aircraft.

Tinker tutors assigned to the school coordinated the trip for the students who range from seven to 10 years of age, all of whom they mentored in various disciplines.

Events of this type not only familiarize the children with the base, but also give them a glimpse into other lifestyles and career field opportunities.

The Tinker tutors have worked with more than 1,000 children a year from the surrounding community schools over the past four years, guiding students toward academic success or serving as positive role models, helpers and friends.

There were 257 active tutors during 1999, logging more than 8,500 hours of volunteer time in support of children of all ages and from all walks of life.

But the team doesn't stop with just lending their skills and mental support — they also ensure that hundreds of Tinker computers find their way into schools through the Tinker Computer Donation Program. Since the program's start in 1992, Tinker has donated approximately 2,500 computers to 36 counties within the state in both rural and local areas. The hard drives are cleaned and peripherals added so they're in tip-top shape before some lucky child is asked to log on and surf his or her way to even more knowledge.

Tinker's nationally recognized Computers for Schools Program is a positive way for the federal government to give something back to the community through education.

Even the security forces squadron gets involved with children through their adoption of the Dana Brown Cooper Head Start School in Midwest City, Okla.

Their first time out, the squadron fingerprinted more than 50 children aged 3 to 5 years old to start their identity-kit composite profiles.

About Face Program

Along those same lines, many members of Tinker's Company Grade Officers Council mentor for the About Face Program. Children through their teens are placed into the About Face Program by their schools and parents in the hopes of teaching them that crime, gangs and drugs don't pay.

Special tours of the base are given, showing them diverse job opportunities and how completing school is one way of assuring an opportunity of getting one.

The volunteers show them another way of life — one in which they learn

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Top: Volunteers from Tinker fill tents with donations for victims of the May 1999 tornado. Airman 1st Class Johanns Fernandez, left, 31st Combat Communications Squadron, hands off to Petty Officer 1st class Dan Beurie, in the line. Bottom: Petty Officer 2nd class Jodi Biser, center, unearths a lamp from the debris of a splintered Del City Home as a team searches for victims. The VQ-4 volunteer joined with Airman George Whelan, 552nd Equipment Maintenance Squadron, and Tonda Nicholson, a member of the community.

Tinker —
Continued from page 11

to respect themselves, learn new skills, make good money and earn the respect of others.

The Tinker team also considered the fact that many people in the community, as well as those passing through Oklahoma City, would like a close-up view of aircraft and did some readjustments to a fence line to create the Tinker Heritage AirPark. Located just off Interstate 40, the AirPark is accessible to anyone and everyone with a yen for aircraft and offers a humble tribute to the sky monsters of yesterday and today. The walkways and landscaping throughout the AirPark were partnership projects with local and state agencies.

Tinker takes pride in being a member of the community by lending a helping hand whenever and wherever it's needed. During this summer's hot, dry spell, numerous grass fires flamed through the area and Tinker's firefighters joined in the combat effort. A total of four trucks and 12 firemen fought side by side with the Oak Cliff Fire District to squelch fires in Oklahoma and Logan counties.

At the same time, the 33rd Combat Communications Squadron assisted the Oklahoma Emergency Management Agency by loaning them several pieces of mobile communications equipment.

More than a helping hand

Being a good neighbor extends beyond just lending a helping hand in many instances.

The Department of Defense is concerned with upcoming work force retirement issues and Tinker is proactive in solving this issue at the base level using local students.

A special meeting was called with representatives from more than 30 colleges, universities and technology centers. During roundtable discussions, the education representatives and base leadership decided to create an executive committee and volunteer subcommittees that could prepare a video and catalog of needed skills for student reference.

This was just the first of more educational partnership meetings working to put qualified people into the federal work force. These are just a few examples of how Tinker takes its place in the community seriously and wants to be known as a good neighbor.

— Ms. Gail Kulhavy, OC-ALC Public Affairs

Top: Airman 1st Class George Acres, 72nd Security Forces Squadron, fingerprints Sarah Eller, a student at the Dana Brown Cooper Head Start School in Midwest City, Okla. Squadron members made fingerprint and photo identity kits for students attending the school. Bottom: Bri Chandler gets the feel of a parachute with help from Maj. (select) Kurt Birmingham, 10th Flight Test Squadron. The Thelma Reece Park Elementary student was one of 16 who spent the day seeing Tinker's world of military aircraft. Helping is, from left: Maj. Steve Adams and Staff Sgt. Ray Parrish.

Helping ourselves by helping others

Reaching out to local communities, educating and mentoring are things Air Force people take to heart, and those assigned to Air Force Materiel Command in Dayton, Ohio, are putting it to practice by becoming part of the Miami Valley Junior Achievement program.

The Wright-Patterson-Junior Achievement partnership was born Nov. 28 when Mr. John Arnold, local Junior Achievement president, met with Gen. Lester Lyles, AFMC commander, and other base leaders.

Junior Achievement serves to educate and inspire young people to value free enterprise, business and economics to improve the quality of their lives.

Expanding program

"We're wanting to expand our program and Wright-Patterson is a prime place to do that," Mr. Arnold said. "During the past four years, Junior Achievement of Dayton and Miami Valley has increased the number of students reached annually from 2,800 to more than 12,000.

"This dramatic growth is in response to the vital need for JA programs to help students meet the challenges of the world beyond the classroom," he said.

Mr. Arnold said in 2000-2001 his staff plans on extending their reach, through their programs, partnerships and special activities, to touch the lives of 15,000 students in the Miami Valley area this year.

He went on to say that JA wants to reach 40,000 kids by the year 2005.

"That's a very big goal, but I feel it's necessary to reach true impact," he said. "I believe the people at Wright-Patterson can provide enormous advantages toward this goal."

Educational outreach

Junior Achievement is the newest member of a volunteer-based family of organizations Wright-Patterson helps, according to Ms. Kathleen Schweinfurth, Wright-Patterson's educational outreach office coordinator.

"Recruiting volunteers for programs like Junior Achievement is just another example of how we support community educational programs," she said. "It's important for us to be involved in the community we live in.

"Our people can show these kids that careers in math and science can be exciting," Ms. Schweinfurth said. "And, who knows, some of these students may want to come to work at Wright-Patterson some day."

Ms. Schweinfurth said her office has an e-mail list of more than 350 area teachers who have asked for information on the base's educational outreach program. Their program support list consists of more than 20 volunteer-based organizations.

"Whether it be a speaker, science demonstration, science fair judges, mentors or whatever, our people are available to help," she said.

Recruiting opportunities

Not only will Wright-Patterson and AFMC headquarters people be helping programs like JA, but they also help the command and the Air Force in the process, according to Ms. Polly Sweet, AFMC's human resources division chief.

"When our people go out to the schools, the students get to hear specialists in their respective fields tell about their business experiences and how important it is to stick with an education," Ms. Sweet said. "But, they also get to see a person who's affiliated with the military or civil service."

She noted that AFMC is looking at recruiting 26,000 new people from now to 2007 and opportunities like this are a good place to start.

"People don't think of us as a good employment opportunity as much any more because of all those years of downsizing," Ms. Sweet said.

"So, when we show students via the JA and other volunteer programs about AFMC jobs, we're not only helping them, but we're yielding benefits for ourselves in the long run," she said.

Anyone interested in volunteering for programs like JA and others should see their base volunteer manager. Those wanting to volunteer at Wright-Patterson should call the base's educational outreach office.

— Tech. Sgt. Carl Norman, AFMC Public Affairs

Junior Achievement facts: Everything you wanted to know

— Junior Achievement reaches more than 2 million students in the United States and more than 500,000 students in over 88 foreign countries. Worldwide, programs are projected to reach four million students annually.

— More than 40,000 teachers use Junior Achievement programs, which are provided at no cost to schools. The 77 local area affiliates in the United States collectively raise more than $64 million from the private sector to support economic education in America's schools.

— Since 1919, Junior Achievement has made an impact on more than 30 million young people by educating and inspiring them to value free enterprise, business and economics to improve the quality of their lives.

— Facts provided by Junior Achievement of Central Ohio, Inc.

Elf makes 'Earley' toy delivery

Staff Sgt. Javier Ruiz (dressed as Santa) from Air Force Research Laboratory, Brooks Air Force Base, Texas, annually distributes toys to disadvantaged children in some of San Antonio's poorest neighborhoods for the "Elf Louise" Christmas project. (Photos by Mr. Rudy Purificato, 311th HSW)

Most of us by now have packed away our holiday decorations with our Yuletide cheer. Yet, for several Brooks Air Force Base, Texas 'elves', the spirit of giving remains a memory that continues to last well into the New Year.

No volunteer elf could have foretold receiving a special gift: a fleeting feeling of exhilaration that accompanies wrapping donated toys, Christmas parade involvement or visiting impoverished neighborhoods as Santa's ambassadors.

For Staff Sgt. Javier Ruiz, Air Force Research Laboratory Veterinary Sciences superintendent, being an Elf Louise "Santa" encompassed much more than just having a jolly good time. "My most memorable moment involved a 5-year-old boy, mentally retarded and in a wheelchair. I asked him if he had been a good boy during the year. He responded — 'Good, good'."

Grinch begone!

Aided by his sister, Ms. Fela Ruiz, Sgt. Ruiz delivered hundreds of gifts to needy families a week before Christmas. "It's very rewarding. It makes your problems seem insignificant," Ms. Ruiz said. She and her Army technician brother have been Santa team participants the past two holiday seasons.

Their spirit was infectious. Neither Scrooge nor the Grinch could have spoiled the pair's holiday energy, evidenced by "Santa" Ruiz waving endlessly through the sunroof of his sister's car.

They surprised children everywhere they went. The magic they evoked drifted through San Antonio's ramshackle neighborhoods like a fine mist. Their demeanor was calming, reassuring and a demonstration of good will toward adults and little ones alike. Even local gang members who patrolled their turf on bikes gave way to Santa's booming, friendly voice.

Christmas 2000 found Sgt. Ruiz and his sister primarily visiting westside neighborhoods dispensing gifts, candy and Polaroid photos of Santa's visit.

Jolly Old Elf

For one young recipient spellbound by Santa's visit to his humble home, the experience reassured the boy that the jolly old elf didn't forget him. Peering from around the corner of his house as the Santa team boarded their car-like sleigh, the boy waved quickly goodbye, then disappeared in a cloud of dust.

Sgt. Ruiz credits Ms. Sharon Earley, Elf Louise distribution manager, for getting several co-workers involved in the program. "Christmas 2000 was perhaps the most successful holiday season in the non-profit organization's 32-year-history," said Ms. Earley.

"There was a great outpouring from the community," said Ms. Earley. "We distributed 55,000 toys to 9,150 families, more than ever before. A total of 650 Santa teams distributed donated gifts along with 1,500 pounds of candy."

Spirit of joy

Dozens of Brooks volunteers also helped distribute good cheer at the first San Antonio children's parade held to solicit wrapped gifts from the city's children for less fortunate families. "The weather on parade day may have been frightful, but the spirit of Brooks volunteers was certainly delightful," said Ms. Earley.

"Our main goal was to provide a safety patrol," said Ms. Rosemary Andrews, operations branch chief for AFRL's Human Effectiveness Directorate. Ms. Andrews persuaded several Brooks workers to join a group of 200 volunteers who supported her Highlands Rotary Club's participation in the parade.

The spirit of joy that permeated the parade route quickly swept up volunteers. "It was neat to see some kids still believed in Santa," Ms. Andrews said. More surprising was how everyone involved became engulfed by the spirit of the season. "Few of us knew anyone there. Yet, no one was afraid to have fun, act silly, sing songs or play with the kids. Rich or poor, young or old, everyone became part of our parade family. The event allowed us to be totally uninhibited," she said.

For Brooks multimedia center volunteer Senior Airman Wendy Garcia, the parade evoked memories of her native Chicago. "It was cold, drizzling and foggy. There weren't many people at the parade, but the Christmas atmosphere was definitely present."

—Mr. Rudy Purificato, 311th HSW

Museum offers hands-on learning

Widely recognized as a major tourist attraction and keeper of the Air Force heritage, the U.S. Air Force Museum is developing an identity as a valuable educational resource for students, teachers and families.

The museum's education division offers a variety of innovative programs and hands-on activities to promote aerospace knowledge and generate enthusiasm among students for learning about science, math and history, positioning the Museum as a partner in education in the Dayton community and throughout the state of Ohio.

"The students and teachers we serve through our programs react very favorably to the opportunity to learn about aviation and aerospace in a hands-on way," said Ms. Cindy Henry, museum education coordinator. "Students enjoy being active participants in the learning process and find great satisfaction in building something for themselves."

Through interactive activities, teacher workshops, outreach programs and museum tour programs, the division reaches more than 50,000 students, teachers, youth groups, adults and families this past year. Programs are even available for the disabled.

Activities

Examples of hands-on activities offered by the museum's education division include building paper rockets, constructing model hot air balloons, putting together kites and creating airplanes. These opportunities capture the imagination of young participants and introduce concepts across a broad range of academic disciplines.

"The hands-on, minds-on approach works as students and teachers become active learners," said Ms. Judith Wehn, chief of the museum's education division. "It's rewarding to see expressions on the faces of students change from worry to wonder when they see the model airplanes they just built and launched lift into the air and soar."

According to museum education coordinator Ms. Sarah Sessions, museum education programs achieve more than bringing aviation history and aerospace concepts to life for students. They also provide a welcome support to teachers seeking to enhance their teaching techniques.

"Many public, private and even home school teachers appreciate our programs and how they support state standards," said Ms. Sessions. "They appreciate our willingness to tailor programs to individual needs."

Teaching instructors

One way the Museum reaches out to educators is through Project SOAR (Science in Ohio through Aerospace Resources), a joint program of the museum and the Air Force Museum Foundation through which the museum offers week-long in-service training to selected teachers regarding aerospace topics and concepts. The program is made possible through a grant received from the Dwight D. Eisenhower Professional Development Program of the Ohio Board of Regents.

"The goal of Project SOAR is to improve teaching and learning by capturing and nurturing the interest and enthusiasm of teachers and students through aerospace activities that support the local curriculum, state models and national standards in science and mathematics," said Ms. Wehn. "The aerospace curriculum crosses all disciplines, and aviation and space topics serve as natural student motivators."

Regardless of the kind of activity or program, the museum's education division hopes to inspire future generations of leaders and technological innovators.

"Ultimately, some of our young visitors will become the next generation of Air Force personnel, both active duty and civilian," declared Ms. Wehn. "We may never know that a program we offered was the spark that ignited the imagination of a future pilot, technician or engineer."

— Mr. Chris McGee, U.S. Air Force Museum Public Affairs

Top: A group of children enjoy storytime at the U.S.A.F. Museum, learning about aviation history and technology. Bottom: Students prepare to launch rockets as part of a museum education program. The museum's education division offers innovative programs designed to inspire enthusiasm for aerospace technology and encourage future generations of scientists, engineers and pilots. (Photos courtesy of Mr. Bob Mullins of Ohio Schools Magazine)

Young Marines participated in the Kettering 4th-of-July parade as Marines from different eras. From left to right: Young Marine Corporal Mike Ford, Civil War; Chief Master Sergeant John Bankowitz, WWI; Young Marine Sergeant John McCallister, WWII; Volunteer Mr. Joe Abele, Korea; Young Marine Corporal Brian Grilliot, Vietnam; Young Marine Private Angel Watson, Desert Storm.

Air Force civilian reaches out to Young Marines

They stand all in line, ram-rod straight, head forward and arms by their sides. They look like Marines and act like Marines and you might think they were Marines if it wasn't for their young faces.

With ages ranging from 8 to 18, and heights from three to six feet, these dedicated young people may not be the real thing, but they are definitely Marines at heart.

The Young Marines of Dayton is a non-profit organization that works with troubled children. Many of these children cause problems at home, some at school and others in both areas.

A few of the Young Marines are even required to attend the program by local juvenile courts.

Founded in 1958, the organization promotes the mental, moral and physical development of young Americans throughout the United States and overseas.

Providing role models

"A lot of the children don't have traditional families and lack role models there," said Mr. John Bankowitz, logistics management specialist, Air Force Security Assistance Center, Wright-Patterson Air Force Base, Ohio.

"We give them that role model and then act as a buffer between them and the world. They talk to us and tell us their problems and we are able to provide them guidance."

A recruit starts out in a 13-week boot camp where they are yelled at by drill instructors, made to do push-ups, taught to march and learn military customs, courtesies and history. It is similar to real boot camp, but the recruits only meet once a week.

The program hopes to instill leadership, integrity and discipline.

All Young Marines make a pledge to maintain a drug-free lifestyle and are encouraged to influence family, friends and schoolmates to share this commitment.

Turning lives around

"The most rewarding part about the program is watching the children turn themselves around," he said. "You get a child who is a trouble-maker and after a couple of months you see his or her attitude change.

Navy Petty Officer 3rd Class Jarrett Garlend lends a helping finger to Young Marine Private Shelbe Dearth who has to fireman-carry Young Marine Lance Corporal Taryn Collinsworth during a race at a Young Marine campout. (Photos by Capt. CK Keegan)

"It's exciting to have a parent come up to me and thank us for how much better their child is doing at home and school," he said.

Ms. Brandi Ferguson, a Young Marine Lance Corporal, said the program has made a difference in her life.

Ms. Ferguson had attitude problems and said she had a very short fuse. This led to frequent fighting at school and in her neighborhood.

"Now I try to find something else to do," she said. "I tell myself that it's just petty and doesn't matter.

"I walk away and do some pushups, or something to get rid of the physical part of the anger," she said.

"Then I am ready to sit down and talk about it," she continued.

Ms. Ferguson plans to join the Marine Corps after graduation next spring.

"The program is going to help me, especially in boot camp," she said. "I have learned discipline and all the customs and courtesies and how to march. I will be that far ahead of everyone else."

Ms. Ferguson has stepped up to be a drill instructor for the new recruit class and Mr. Bankowitz said he will be sad to see her go. She has become a great asset to the program.

As a reserve chief master sergeant, Mr. Bankowitz is the only Air Force commander of a Young Marine program that he knows of.

"I get strange looks from parents and staff members from other units," he said. "They are expecting to find a Marine and instead they get an Air Force chief. I do think they are finally getting used to me."

Mr. Bankowitz served in the active duty Marine Corps for seven years before joining the Air Force Reserves.

Having had first-hand experience as a former Marine, he knows how they work. "But sometimes it's hard for people to get past the Air Force uniform," he said.

"Chief (Mr. Bankowitz) brings a lot of experience to the program," said Ms. Ferguson. "He also brings a more objective view since he has been with the Marines and the Air Force," she said. "I think it has really made a difference having him as the commander."

— Capt. CK Keegan, AFSAC Commanders Action Group

Top: Lance Corporal Josh Samples puts camouflage on Young Marine Lance Corporal Taryn Collinsworth. The Young Marines learn how to evade capture as part of their training. Middle: The Young Marines take a break during a camp out. Bottom: Young Marines learn first aid.

AFRL program shows children the smallest things they have ever seen

Photo is close up view of a human hair as seen through a powerful scanning electron microscope.

Unique program places students smack at the controls of some of the world's most powerful scanning electron microscopes

"What's the smallest thing you've ever seen? Anything students tell us about… we can top it. We can show them something smaller!" That's how Mr. Eric Pooler, a third-year Engineering-Physics major at Wright State University and research assistant at the Air Force Research Laboratory's Materials and Manufacturing Directorate, describes a program here which places students smack at the controls of some of the world's most powerful scanning electron microscopes.

Initiated in 1990, the "Scanning Electron Microscope EDucatorS" program (SEMEDS) attracts up to 400 students annually, providing on-the-spot experience with a technology they previously could only read about. Both the students and teachers gain real-world experience operating super microscopes capable of enlarging objects 200,000 times their normal size. They're also given an opportunity to meet and interact with working scientists in a real-world laboratory setting.

"The microscopic world provides a different scale for looking at things," Mr. Pooler said. And He should know. He participated in the program as a senior at Centerville High School in 1996, and currently serves as a SEMEDS volunteer instructor when he's not assisting in laser experiments in the directorate's new ultrafast physics laboratory or attending classes.

When the students arrive, they're briefed on the mission of the materials and manufacturing mirectorate, introduced to the volunteer instructors for that session, then divided into groups and given hands-on experience operating the microscopes. The scanning electron microscopes enable them to explore a variety of interesting specimens including bee stingers, computer chips, compact discs, coins, human hair and spiders, all of which take on mesmerizing characteristics at the higher magnifications.

"SEMEDS places science in front of students and provides something they can physically see and manipulate," Mr. Pooler explained. "It gives students an opportunity to use a sophisticated piece of equipment and to look at something that has genuine research value. The world is more than you see. There's a lot going on… you just don't see it."

The SEMEDS program was created by Dr. Wade Adams, chief scientist of the materials and manufacturing directorate, and Dr. Al Jackson, a research scientist in the directorate's materials process design branch.

The program is offered after work up to four times a month and is designed to accommodate up to 18 students per session.

Materials researchers like Mr. Pooler, working with the Wright-Patterson AFB Educational Outreach Office, have donated several thousands of hours of their own time during the past eight years working with the students. Their efforts have been applauded by the Dayton-area teachers and schools involved in the program and have also spawned several spin-off programs at local universities and scientific organizations, according to Ms. Katie Thorp, an engineer in the directorate's nonmetallic materials division and one of the SEMEDS program's chief administrators.

Area teachers like the program because it enhances science curriculums and utilizes computer technology in an innovative way to capture student interest, Ms. Thorp pointed out.

"The SEMEDS program exposes the next generation to science, and engineers and scientists in their working environment," he said.

" It also provides role models and ideas to students who are nearing critical decision points about where they would like to go in life, their careers and education," she added.

"The program is for any student because exposure to research is the nature of how new ideas are brought about," Mr. Pooler explained.

"SEMEDS is a perfect example of that. I think the individuals who organized the program have put a lot of work into it. They're very dedicated to what they are doing."

— Pete Meltzer, AFRL Materials and Manufacturing Directorate

Photo by Staff Sgt. Stacee McCausland

Edwards rolls out red carpet for visiting royalty

EDWARDS AIR FORCE BASE, Calif. — His Royal Highness Prince Andrew, Duke of York, visited Edwards recently as part of a three-day visit to Southern California.

Maj. Gen. Dick Reynolds, Air Force Flight Test Center commander, right, and Marine Maj. Gen. Michael Hough, Joint Strike Fighter Program director, from Arlington, Va., welcomed Prince Andrew to the base.

— Reported by AFFTC Public Affairs

AEDC and Boeing enter three-year agreement

ARNOLD AIR FORCE BASE, Tenn. — The Arnold Engineering Development Center and Boeing Company have entered into a three-year agreement to conduct wind tunnel testing here on several Boeing projects.

The three-year agreement, with a series of one-year options, provides the framework for testing at the center dependent on the needs of the Boeing Company and availability of wind tunnels here.

It also provides cost incentives for increased levels of testing, stable pricing and standardized terms on individual tests. The potential value based on anticipated test workload could reach $30 million per year.

The first planned test will be a validation test using a Boeing 777 scale model. Other potential tests include improved performance testing for the Boeing 767 and 747.

AEDC is the nation's largest complex of flight simulation test facilities. This $7 billion complex has some 58 aerospace test facilities at Arnold, and the center's remote operating location Hypervelocity Tunnel 9 in White Oak, Md.

The test facilities simulate flight from subsonic to hypersonic speeds at altitudes from sea level to space.

— Reported by AEDC Public Affairs

Robins saves assets with new ambulance service

ROBINS AIR FORCE BASE, Ga. — Since its initiation Sept. 18, civilian ambulance service on Robins has lived up to its promises to save money and improve response time.

The service also provides a paramedic on every ambulance run, a change that has already proved beneficial in one life-threatening situation, said Senior Master Sgt. Michael Kellen, superintendent of the 78th Medical Group's Medical Operations Squadron.

Paramedics were present to administer Benadryl to an active-duty member whose airway was swelling shut, a reaction to an insect bite. The Benadryl prevented respiratory arrest, perhaps even death, according to Sgt. Kellen.

Before the civilian ambulance service began, the 78th Medical Group staffed the ambulances with 12 emergency medical technicians, who were not qualified to administer the drug.

The 12 EMTs have been returned to the Primary Care Clinic, which allows the clinical care teams to operate with increased efficiency and quality of care, said Sgt. Kellen.

In addition to the paramedic advantage, the 78th Medical Group estimates the contract service will save about $400,000 a year.

Response time under the contract is just over five minutes, an average of one to two minutes faster.

Since the closure of the on-base emergency room in January 1999, 78th ambulance crews have transported patients directly to Houston Medical Center.

Lt. Col. Timothy McCormick, deputy commander of the 78th Medical Group, said the procedure has worked well and the direct transfer to the medical center will continue.

— Reported by WR-ALC Public Affairs

New space chief named for AFRL/SV

KIRTLAND AIR FORCE BASE, N.M. — Col. Richard A. Kniseley will now head the Air Force Research Laboratory's Space Vehicles Directorate here.

Col. Kniseley was the deputy of the directorate from August 1999 until September 2000, when he assumed the role of acting director.

The 1000-person directorate focuses on leading-edge space concepts, technologies and demonstrations supporting space-based surveillance and space capability protection, and develops a wide range of technologies in the areas of space electronics, satellite autonomy, power, remote sensing, structures, structural controls, astrodynamics and aerospace environmental physics.

Col. Kniseley replaces Ms. Christine Anderson, who has been reassigned to oversee the MILSATCOM Joint Program Office in Los Angeles, Calif.

— Reported by AFRL Public Affairs

AFSAC welcomes its fifth commander

WRIGHT-PATTERSON AIR FORCE BASE, Ohio — Maj. Gen. Claude Bolton, Jr., became the fifth commander of AFMC's Air Force Security Assistance Center in an assumption of command ceremony Oct. 24.

Gen. Bolton formerly served as the program executive officer for fighter and bomber programs in the assistant secretary of the Air Force for acquisition at the Pentagon.

The ceremony took place at the U.S. Air Force Museum's Modern Flight Hangar.

Gen. Bolton replaced Maj. Gen. David Love who retired.

Gen. Bolton has a varied background including assignments as a combat pilot in Southeast Asia, test pilot and program manager for diverse programs including the advanced tactical fighter and advanced cruise missile.

He is also an avid runner having run 10 Marine Corps Marathons, four Air Force Marathons and two Boston Marathons. Gen. Bolton's best time in the Boston Marathon was 3:32.

— Reported by Mr. Mike Wallace, ASC Public Affairs

X-35A completes first in-flight refueling mission

The Lockheed Martin Joint Strike Fighter X-35A successfully executed a recent series of airborne refuelings during its 10th flight at Edwards Air Force Base, Calif., paving the way for extended test flights and demonstrating the aircraft's flying qualities.

Lt. Col. Paul Smith, deputy director for the joint strike fighter Test and Evaluation Support Office at Edwards, climbed to 23,000 feet and rendezvoused with a KC-135 tanker from the 418th Flight Test Squadron, performing a series of qualification tests to verify the X-35's compatibility with the tanker's flow-field wake and refueling boom.

Col. Smith and the KC-135 crew accomplished four refuelings during the mission, enabling the JSF concept demonstrator to continue airborne testing for almost three hours. The extended flight included several handling-quality tests and an auxiliary power unit air-restart.

"The refueling test shows that the system works as predicted — that we're able to take on fuel and thereby open up the flight envelope," said Mr. Frank J. Cappuccio, vice president and program manager of the Lockheed Martin JSF. "Everything went exactly as planned with no surprises."

The conventional takeoff and landing X-35A, which Col. Smith flew, is designed to meet Air Force specifications and is externally identical to the short takeoff and vertical landing X-35B, the Marine Corps, British Royal Air Force and Royal Navy JSF demonstrator. Consequently, much of the X-35A's flight-test data — including that from the in-flight refuelings — will satisfy government requirements for the X-35B.

The X-35C, a JSF carrier variant designed to meet Navy requirements, is scheduled to fly in late November or early December.

— Mr. Ray Johnson, AFFTC Public Affairs

Lockheed Martin's X-35A Joint Strike Fighter concept demonstrator receives fuel from a KC-135 tanker during a test mission over the Mojave Desert near Edwards Air Force Base, Calif. After making more test flights, the X-35A and Boeing's X-32A will be tested at Naval Air Station Patuxent River, Md.

Dryer saves time and money at Arnold

A new atmospheric dryer at Arnold Engineering Development Center, Tenn., is making an unlimited supply of dry air and cost savings a reality for customers at the center's Propulsion Wind Tunnel Test Facility.

"This capability will really pay dividends to our test customers," said Lt. Col. Steve McQueen, director of aerodynamic testing. "Not only will it save on the overall cost of testing, it makes for a greater test. Early test results suggest that air quality and test data quality improved."

The dryers remove moisture from air that is used to simulate actual flight conditions in wind tunnels.

Integrated testing

Devoted to aerodynamic and propulsion integration testing of large-scale aircraft models, the wind tunnels provide customers with complete testing and analysis support. In some cases, the propulsion systems and inlets are tested simultaneously to make sure they are aerodynamically designed to provide adequate airflow to the engines.

Some of the systems recently tested here include the Navy's F/A-18C/D Hornet and F/A-18E/F Super Hornet fighter, the Air Force's new F-22 Raptor fighter, the Boeing and Lockheed Martin Joint Strike Fighters and the B-1B Bomber aircraft. Other systems tested include the full-scale Joint Direct Attack Munitions and the Unmanned Combat Air Vehicle.

Mr. Kevin Sipe, project engineer, tours the new atmospheric dryer located in the Propulsion Wind Tunnel Test Facility at Arnold Air Force Base, Tenn. The dryer, in combination with the facility's older dryer, will reduce tunnel occupancy time and result in a significant cost savings for test customers in its transonic wind tunnels. (Photo by Mr. Butch Brooks)

According to Mr. Kevin Sipe, project engineer, the design and construction of the new dryer was a $10.9 million effort funded by Air Force Materiel Command. The program is part of the propulsion wind tunnel sustainment program, a four-phase Air Force-funded program to automate four main areas in the wind tunnel test facility, scheduled for completion in fiscal 2004 with an approximate total cost of $80 million.

Arnold will use both the older dryer, constructed in the late 50s, and the newly-constructed dryer to supply the propulsion wind tunnel with dry air capability 24 hours a day, seven days a week.

"The existing atmospheric dryer was always too small to provide all the dry air that was needed for propulsion wind tunnels," Mr. Sipe said. "During a test if the desiccant beds could no longer meet the tunnel moisture criteria, we either had to shut down testing to reactivate the dryer or buy more expensive dry air from the Engine Test Facility."

Both atmospheric dryers have a bead-like silica gel drying agent called desiccant. The desiccant absorbs moisture from the air channeled through the dryer to create dry air for wind tunnel testing. Because the desiccant can only hold so much of the extracted moisture, it must undergo a process called reactivation when it cannot take any more moisture. Reactivation time can range from eight to 12 hours.

Although the dryers perform the same function, some differences exist in the precooler system, burners, insulation, control system and instrumentation.

Precooler System

The older dryer can process 200 pounds per second of air channeling through the dryer, leaving the rest of the flow to bypass the precooler. The new dryer can process 400 pounds per second, so all the flow passes through the precooler.

The precooler system takes the humidity out of the air by the process of condensation. The precooler removes moisture from the air in the dryer before the air reaches the desiccant beds. The desiccant removes the remainder of the moisture by the process of absorption.

Pressurization

The pressurization fans maintain positive air pressure airflow in the atmospheric dryer building.

The older dryer pressurization fans are capable of a 300 pounds per second flow, whereas, the new dryer pressurization fans are capable of over 400 pounds per second flow, and are variable drive frequency. This capability allows the fans to run at the speed necessary to maintain slight positive pressure in the building.

"If the pressure goes below atmospheric pressure, it causes leakage in the process, making humidity go up very quickly, making achieving test conditions not possible," Mr. Sipe said.

In the older dryer, the fans were either on or off, the speed was not adjustable. This improvement increases the efficiency of the new dryer.

Burner System

Although the dryer is electrically operated, natural gas is used to heat the desiccant beds. This is done with the burner system, which contains all the gas valving and safety interlocks.

"The older dryer's burner is made of cast iron," Mr. Sipe said. "In the older dryer, the gas train is in the basement of the

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Dryers — *Continued from page 21*

dryer building. In the new dryer, the burner is stainless steel and located outside the building on the ground level. This provides decreased maintenance and increased safety.

Insulation

The insulation enables the dryer to heat up faster in the wintertime, said Mr. Sipe.

"Different approaches were taken in insulating the dryers," he said. "In the older dryer, all the wall insulation is actually exposed to the air inside, because there are no interior walls to sandwich the insulation to the exterior walls. The insulation is so porous and the heat loss so great that it takes a very long time to heat the desiccant beds."

For this reason Mr. Sipe said the insulation in the older dryer is ineffective in keeping the shell of the building from getting hot enough to burn anyone who touches an exterior wall when the dryer is operational. Because of the harsh environment in the dryer, he said multiple projects to find an insulation that could withstand the repetitive exposure to the environment of the burner had been unsuccessful.

The insulation in the new dryer facility has solved all the problems encountered in the old dryer as well as reducing the gas required for reactivation heating by one half.

Control System

Although the control system for the older dryer provides some automation, it requires personnel to operate and monitor the reactivation process for the desiccant beds. Personnel have to manually configure switches, set valve positions, open and close configuration doors and start fans.

The new dryer has an automatic control system, leaving the operator with three options.

One option is drying mode to support the tunnel. Another option is reactivation in a supervisory mode, which heats the desiccant beds to a predetermined temperature at which the dryer will shut down from heating mode and go into cooling mode without any operator intervention.

The final option is another reactivation mode, which heats the dryer and then shuts it down. In this mode the operator must manually select cooling mode to put the dryer into the cooling phase. The control system provides for an automated operation of the new dryer.

Little to none is how Mr. Sipe describes the older atmospheric dryer when it comes to instrumentation.

"It's 50's and 60's technology instrumentation," he said. "There has not been any significant upgrade in the older dryer. Under the propulsion wind tunnel sustainment program, new instrumentation will be put in the building. "By building the new dryer first, because they are similar in operation, we will take the design of this dryer and apply it directly to the older dryer without starting from scratch," said Mr. Sipe.

Currently, a workstation located in a control room in the new dryer building operates the dryer, but future plans will have both dryers remotely controlled from a central operations center.

Leading the way

Arnold is the nation's largest complex of flight simulation test facilities. Today, this $6 billion complex has some 58 aerospace test facilities located at Arnold AFB, Tenn., and the center's remote operating location Hypervelocity Tunnel 9 in White Oak, Md. The test facilities simulate flight from subsonic to hypersonic speeds at altitudes from sea-level to space.

Virtually every high performance flight system in use by the Department of Defense today and all NASA manned spacecraft have been tested in Arnold's facilities. Today the center is testing the next generation of aircraft and space systems.

— Ms. Danette Duncan, AEDC Public Affairs

AEDC explores alternative fabrication methods

To remain economically competitive in the world of wind tunnel testing, Arnold Engineering Development Center, Arnold Air Force Base, Tenn., is employing some new techniques of rapid prototyping — Selective Laser Sintering, or SLS, and the Stereolithography Apparatus, or SLA.

"The utilization of these processes, when applicable to model fabrication could open many doors to Arnold customers, allowing them to make complex model components inexpensively and within three days," said Ms. Tracy McDonald, engineer.

"This relatively short lead time will allow the customer, if required, to fabricate additional model components during his current test entry. Before implementation of these new processes, the fabrication of these complex model components, using traditional fabrication methods, would have been impossible during this short time frame," she said.

Although there are similarities in the processes, definite differences exist. Both the SLS and SLA techniques use computer-aided design files to create a small-scale physical component.

SLS uses a powder material, or microbeads, and a computer-driven laser. The laser fuses the microbeads together in successive layers to construct a complex three-dimensional component.

In the SLA process, the component is built from a liquid material 5/1000 to 6/1000 of an inch at one pass of the laser. As the laser passes over the thin layer of the liquid in the chamber, the laser hardens that layer of liquid.

The platform is lowered 5/1000 to 6/1000 of an inch and another thin layer of the liquid flows over the part being built. The laser then hardens that liquid.

"Stereolithography has been around for 10 years," said Mr. Rod Stewart, senior engineer. "What we have done is to simply take this technology and apply it to fit our needs.

"I think the thing we're currently trying to do is market it as a new capability being offered by Arnold and let our customers know how flexible this new capability is. "We're presently trying to integrate each of these processes, when applicable, into our wind tunnel models, thus saving both time and money."

According to Mr. Stewart, because of structural limitations only about 25 percent of all models or model components can be produced by these methods, but when applicable, the cost savings and shortened lead times are astounding.

— Ms. Danette Duncan, AEDC Public Affairs

Lt. Col. Michael Sizoo, U.S. Air Force Test Pilot School at Edwards Air Force Base, Calif., and Maj. Christian Ledet, right, Iowa Air National Guard, each wear a Libelle anti-G suit that is designed to protect fighter pilots as they make rapid turns or changes in flight path. (Air Force photo)

TPS-tested anti-G suit wins Popular Science honors

A prototype anti-G suit tested by the U.S. Air Force Test Pilot School, Edwards Air Force Base, Calif., was recently chosen by* Popular Science *magazine as one of the top 100 technology developments of 2000.

The gear, called Libelle, is a 12-year project of Mr. Andres Reinhard from the Swiss company Life Support Systems AG and was evaluated by students and instructors to determine how it handled high-G stress.

Unlike current anti-G suits that use pressurized air, Libelle uses liquid to protect fighter pilots as they make rapid turns or changes in flight path — such as combat maneuvers — which increase gravity forces on the body.

When this happens, a 160-pound pilot, in just a few seconds, can feel as if he weighs up to nine times his body weight, or 1,440 pounds. Consequently, just lifting a hand suddenly becomes a struggle.

Side effects

Increased G forces also cause blood to rush from the brain toward the feet, which, if not prevented, can result in impaired vision and even blackout, called gravity induced loss of consciousness, or GLoc.

Today, airmen use pneumatic anti-G suits and a straining maneuver to tackle these predicaments. Both, however, have drawbacks.

Pneumatic gear requires crewmen to be connected to mechanical regulating systems that deliver compressed air via hoses. The anti-G straining maneuver, a forced-breathing technique, calls for aircrew members to literally flex every muscle in their bodies, take a deep breath and then do a brief air exchange of exhaling and inhaling.

Obviously, this can be distracting, especially for a pilot who is slashing through the sky in an F-15 Eagle during battle.

Problem solving

However, Libelle does away with one problem and significantly reduces another.

The self-sustained Libelle, which uses less than a quart of liquid and looks like a space-age wetsuit, does not need regulating mechanisms or on-board compressed air.

And as for the straining maneuver, Lt. Col. Michael Sizoo, director of plans and programs at the school, said

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Anti-G suit
— Continued from page 24

while it still must be used occasionally with Libelle, it isn't nearly as strenuous or distracting with the Swiss-made prototype as it is with Combat Edge, the current anti-G suit used by the Air Force for tactical sorties.

"Libelle allows you to focus more and can reduce the fatigue factor dramatically," said Col. Sizoo, who flew Libelle test sorties in the F-16 Fighting Falcon and T-38 Talon and served as the program manager during evaluation of the prototype.

"Overall, there are some issues that must be worked out," he said, "but if I were to go up in air combat — where you might have to pull and sustain 9 Gs extensively — I would want the suit."

"This suit provides a capability that warrants further research for improving aircraft effectiveness," Col. Sizoo continued.

Collaborative effort

Testing of Libelle actually happened in two time frames and was a collaborative effort by the school, Air Combat Command, and the Air Expeditionary Force Battlelab at Mountain Home Air Force Base, Idaho.

Test pilot school students, under the guidance of Col. Sizoo, completed the first phase in the spring, while a small group of experienced flight surgeons and fighter pilots, also led by Col. Sizoo, completed the second stage this summer.

"This project was a superb example of the type of success created by partnering in flight test," said Lt. Col. Joe Zeis, deputy commandant of the school.

"We can bring ACC, the battlelabs and contractors together with our developmental flight testers, providing a rapid and highly effective product that enhances our overall warfighting capabilities," he said.

In November, *Popular Science* picked Libelle to receive a "Best of What's New" award in the aviation and space category of its annual special issue.

Other *Popular Science* selectees included:

— **The Spacecraft Cluster**. A joint venture of NASA and the European Space Agency that will study the Earth's magnetic field and solar wind.

— **The 777-200LR aircraft**. This aircraft will be capable of flying more than 10,100 miles nonstop.

— **The Terra satellite**. This satellite is scheduled to study the Earth's climate.

— Mr. Ray Johnson, AFFTC Public Affairs

Students from the U.S. Air Force Test Pilot School, Air Force Flight Test Center, Edwards Air Force Base, Calif., flew F-16D fighters while testing a ground collision avoidance system. (Air Force photo)

TPS class project tests crash avoidance system

A test team consisting of Maj. Dan Rush and Captains James Sturim, Carl Scheafer, Chris Shearer, Ken Germann and Rich Huffman, all students at the Test Pilot School at Edwards Air Force Base, Calif., planned and flew six test sorties using the Automatic Ground Collision Avoidance System, or GCAS, with asymmetric stores loading.

An asymmetric store loading occurs when different weapons are loaded on the left and right hand side of the aircraft.

When this happens, the aircraft handles differently and a pilot unfamiliar with this fact could face problems should ground collision avoidance become necessary.

The sorties were flown as part of the test management project portion of the school curriculum designed to expose the students to real-world test projects.

In addition to fulfilling a graduation requirement, the students completed an important step in helping develop a system that may save aircrew lives during training or while flying combat missions.

The Auto-GCAS would allow the aircraft to perform this task automatically, reducing the risk that a pilot wouldn't be able to avoid a collision. The Auto-GCAS system is designed to automatically save pilots from colliding with the terrain.

If pilots find themselves in a position where collision with the terrain is imminent, the system will take control and fly the jet to avoid the terrain. Although this system has undergone extensive testing, it has never been flown with an asymmetric store loading.

Working as a team both in the air and on the ground, TPS Class 00A used an F-16D from the 416th Flight Test Squadron and included a variety of asymmetric loadings and aircraft maneuvers.

Initial data points were flown at medium altitude. Later data points were flown at low altitude to check actual ground avoidance.

"Most of the test objectives were met," said Maj. Kevin Prosser, instructor and the staff monitor for the project. "The students experienced actually flying and controlling real world test missions."

— Capt. James Sturim, U.S. Air Force Test Pilot School

Two Hill employees set their sights on 2002 olympics

A major and senior airman from Hill Air Force Base, Utah, may have had their Olympic competition dreams come one step closer to reality with a little help from the Air Force World Class Athlete Program, or WCAP.

Maj. Brady Canfield and Senior Airman Trevor Christie, World Class Athlete Program participants, qualified in nationals, the first round of Olympic selection races for the U.S. skeleton 2000-01 team, Oct. 15 at the Utah Winter Sports Park in Park City.

Skeleton racing is the oldest competitive sled racing sport in the world. The sport features helmeted, lycra-clad athletes hurling themselves headfirst down refrigerated, icy downhill chutes at speeds exceeding 80 miles per hour, sliding in and out of hairpin turns.

Ten men and eight women, including Maj. Canfield and Airman Christie, showed they were a little more skilled than their opponents. They were selected from a field of 41 hopefuls, to compete in round two, qualifying for the World Cup team in Calgary, Canada.

Early beginnings

Though this was just the beginning of the selection process for the 2002 Winter Games, it's another step closer to being champions for Maj. Canfield and Airman Christie in a sport they just decided to try one day.

"I was stationed at Griffis Air Force Base, N.Y., when I heard about the sport so I tried it," said Maj. Canfield. "I started going quite often on the weekends. Then I got stationed in Florida so I just burned up a lot of leave to come up for a week or two and slide; a little more than a year ago they moved me up here so I could slide."

Airman Christie already had a bit of a background in luge and tried skeleton racing by chance. "I started bobsledding in 1985 and tried skeleton as a dare," he said. "I've done it ever since. I was never scared on the skeleton, but it did make the runs real exciting."

Technological advances

Originally, sleds consisted of wooden frames with metal runners. Racetracks were sloping Alpine village streets whose treacherous winding turns were fortified with snowbanks to accelerate and direct the sliders through the course.

Sleds have evolved with technology and the tracks are refrigerated half pipes leaving racers literally nowhere to go but down. Racers use any edge they can to negotiate the course safely, but faster.

The Air Force Advanced Composite Office, or ACO, at Hill has built three composite pods for the athletes.

"The ACO used these pods as teaching tools to teach new ACO engineers the steps to manufacture a composite part," said Mr. Larry Coulter, Air Force Research Lab ACO.

He said the ACO had a hand-built prototype measured, used these measurements to develop a 3-D computer animated design model, then downloaded that 3-D model to a computerized router that cut a wood master tool. A fiberglass bond form was made from the wood master, and a composite material used to layup the sled pod. It cured in an autoclave, then was hand trimmed before mounting on the skelton frame.

The pods were mainly a learning tool for the ACO, but it appears that using advanced composites has made a more effective pod," said Mr. Coulter.

"There's a detachment at Hill that's a research unit," said Maj. Canfield. "The under carriage of the sled was changed. The rules changed so it can't be concave — it's got to be flat. The lab made a couple prototypes for me to test."

While Maj. Canfield and Airman Christie are busy competing, their team continues to try and improve their equipment.

"We've helped with the new design of his current runners," said Mr. Doug Wiser, aging landing gear life extension program manager.

Seconds count

"In sports you have to be part athlete, part mechanic and part engineer," said Maj. Canfield. "I spoke with some engineers to see if there was some material that would make it run a little faster or if the cut was slightly changed if it might pick up a few hundredths of a second. It's not huge, but the sport's measured in hundredths of a second. I lost to Airman Christie last year in the National Championships by that much. So this year I'm going to use as a testing year to try and find that magic combination."

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Ms. Nicole Stover — Come on down!

Ms. Nicole Stover, a home daycare provider at Edwards Air Force Base, Calif., recently won $10,000 on the television game show "The Price is Right," while on a trip sponsored by the 95th Services Division.

Ms. Stover and two of her neighbors joined 16 other people on a tour bus to Los Angeles in a quest to be the next participant on the popular program.

"I don't watch much television because I'm so busy with the daycare," she said.

"But a week before we went, I turned the show on to prepare and the short segment that I had been able to catch was the contest where you pick four out of six items under $5. Sure enough, that was the one they wheeled out when I competed, and I won $10,000."

A lucky spin

A lucky spin on the big wheel sent Ms. Stover on to the Showcase Showdown, the game show finale, where she and another contestant received a chance to win several high-value items.

As the highest-amount winner, Ms. Stover had the opportunity to keep or pass the first showcase, which included a recreational watercraft and a trip to Barbados.

However, she passed this showcase up and bid on a showcase of holiday china, a kitchenette and a minivan.

Looking to her friends in the audience for help, she made a bid of $24,000 before the show went to a commercial break.

Ms. Nicole Stover plays with Brandon Castner as part of her daycare provider job. Ms. Stover recently won $10,000 on the television program, "The Price is Right," during a base-sponsored tour. (Photo by Ms. Gwen McKinzie-Cardena)

"The anticipation at that point was just horrible, because you don't know if you've won," she recalled.

You're over!

The final tally revealed that she had overbid by $500.

Although she didn't win a showcase, Ms. Stover is happy with her winnings and an autographed picture of the show's host, Mr. Bob Barker. Ms. Stover got the photo for her grandparents, avid fans of "The Price is Right."

"The best part about the whole thing is that before we went, my two friends and I made a pact," she said. "If any one of us got called and we won, we would give the other two $50. That's all we wanted, was $50, and as soon as I get the check, I'm following through."

The segment Ms. Stover participated in aired Dec. 22.

— Ms. Gwen McKinzie-Cardena, 95th Services Division

Athletes — *Continued from page 25*

With the Air Force engineers helping with the equipment, Airman Christie and Maj. Canfield used their resources and were picked up by the WCAP.

Full time training

The Air Force WCAP offers highly qualified Air Force athletes the opportunity to apply for a program that provides full-time training in their sport. Any Air Force athlete who has attained a high national ranking in an Olympic sport, or has been identified by the Olympic Committee's National Governing Body of the respective sport, may apply for inclusion into the WCAP.

"I wasn't sure if there was any kind of sports program anywhere," said Maj. Canfield. "I started making a few phone calls and found out the Air Force actually had a program and they could help with the travel costs. I did that for two years in Florida. They would send me out about three times a year to train, then they moved me out here.

"When I came here I was able to train full time," he said. He then contacted WCAP to determine that he qualified as an Olympic hopeful. "The National Governing body for the sport contacted WCAP, who inducted me into the program in June."

"I'm in the Utah Air National Guard," said Airman Christie. "When I met Maj. Canfield he told me about the WCAP program. I didn't think it was an option for me, being in the Guard. But I did the paperwork and here I am."

Based on their resume and inputs, athletes accepted into the program are assigned to a location that is most conducive to extensive training in their sport, in this case Utah. Athletes may train with the national team or with a nationally ranked coach for up to two years prior to the Olympics.

They may remain in the program as long as they remain competitive in their sport and continue to progress toward their pre-approved training goals and Olympic team selection.

During a 50-year period of participating in both Summer and Winter Olympic Games, military service members have earned more than 160 gold, silver and bronze medals — Airman Christie and Maj. Canfield hope to add to that number.

— Senior Airman Russ Martin, OC-ALC Public Affairs

Airman William Pitsenbarger by an HH-43 Helicopter at Bien Hoa, South Vietnam, circa 1965. (Photo courtesy of William Pitsenbarger)

Medal of Honor awarded to Piqua, Ohio native

WRIGHT-PATTERSON AIR FORCE BASE, Ohio — A native of Piqua, Ohio, posthumously received the military's highest honor during a ceremony at the U.S. Air Force Museum located in Dayton, Ohio, Dec. 8.

Airman 1st Class William Pitsenbarger, a pararescueman killed in action during the Vietnam War, became the service's second enlisted Medal of Honor recipient since the Air Force became a separate service in 1947.

Airman Pitsenbarger was awarded the Medal of Honor for treating wounded soldiers despite coming under intense enemy fire and being mortally wounded himself during a battle April 11, 1966, outside Saigon, the Republic of Vietnam.

For his actions that day, Airman Pitsenbarger, a veteran of 300 rescue missions, was awarded the Air Force Cross, the second highest award for valor and the highest award the Air Force can bestow.

At the time of the original award, so many of the eyewitnesses were wounded or killed in action there was not enough information available for the Defense Department to accurately assess Airman Pitsenbarger's bravery and justify award of the Medal of Honor.

Subsequent eyewitness reports, developed during the 1990s, led senior Air Force leaders to conclude that the Medal of Honor would more suitably recognize Airman Pitsenbarger's heroism.

Mr. William Pitsenbarger, of Muncie, Ind., accepted the Medal of Honor on his son's behalf. The ceremony was attended by senior Department of Defense and Air Force officials.

— Reported by ASC Public Affairs

Hanscom physicist earns research award

HANSCOM AIR FORCE BASE, Mass. — A principal physicist from Air Force Research Laboratory's Battlespace Environment Division has earned the Air Force's Harold Brown Award. Mr. Frank Marcos received the award that recognizes significant achievement in research and development that can lead to substantial improvement in service's operational effectiveness. The award is named after a former secretary of defense and secretary of the Air Force.

Mr. Marcos, assigned to AFRL's Space Vehicles Directorate, provided a revolutionary breakthrough representing the first significant advance in this area in more than 30 years.

The dominant uncertainty in determining Low Earth Orbit satellites' trajectories comes from insufficient accuracy in how the upper atmosphere density is modeled, said Mr. Marcos.

Uncertainties in estimating the neutral density at satellite altitudes limit Air Force Space Command's capability to accurately know the position and future motions of satellites.

So he devised an innovative method to update the atmospheric density model in near real-time.

This research culminated in a quantitative breakthrough improvement, reducing satellite drag errors well below a barrier some thought was impenetrable.

This method thereby improves the precise calculation of satellite orbits, he said. It also improves the prediction of satellite reentry and collision avoidance warnings.

In the case of the International Space Station, for example, Mr. Marcos' methods will permit precise predictions of debris locations, reducing the frequency and extent of maneuvers for collision avoidance. This will greatly enhance the space station crew's safety and their scientific return, as well as reduce the overall cost of the space Station's operations.

The Secretary of the Air Force will present Mr. Marcos his award at a future date.

— Reported by Mr. Skip Almon, AFRL Public Affairs

Robins wins environmental association award

ROBINS AIR FORCE BASE, Ga. — Robins recently received an environmental award from the Georgia chapter of the Air and Waste Management Association, which promotes a cleaner environment by focusing on air and waste issues.

The association gave its 2000 Environmental Award to the Robins Environmental Management Directorate in the category of "Air: Major Source Compliance Management Program."

Mr. Sean Nicholl, chairman of the awards committee, presented the award Sept. 14 at the chapter's annual conference in Atlanta, Ga. Mr. Mark Summers and Ms. Kim Kelley of the environmental management directorate at Robins accepted the award for the base.

According to Mr. Summers, the award is given for programs that go beyond regulatory compliance, for "things we've done outside the norm, over and above what the state wants us to do."

As examples, he cited the base's "air quality tracking system," a computerized database that tracks materials used on base that contain volatile organic compounds that affect air quality.

"We have our own air quality tracking database linked to the hazardous materials management system," he said. "Any paint or solvent with volatile organic compounds in it has certain criteria as to how it is used. We can track the materials, who received them and how they are used."

The award also cited Robins' large fleet of alternative fuel vehicles, Mr. Summers said. The base employs hundreds of vehicles that use electricity, ethanol or hybrid gas and electric engines that reduce vehicle emissions.

— Reported by Mr. Hal McKenzie, WR-ALC Public Affairs